



Understanding AKN Protocols (Landbird and Marshbird)

Objective: Project Leaders and Biologists wanting to enter data in the Avian Knowledge Network data management system (AKN), and potential users interested in entering their data in the AKN, will learn how determine which AKN defined protocol matches their survey procedures.

Audience: Current, registered users with *Project Leader* or *Biologist* access to a project in the AKN or potential users seeking to know if the AKN has a protocol which matches their survey procedures.

1 Background

The AKN database uses the term 'protocol' to describe the various survey methodologies (what USFWS refers to as SOPs) it supports. This AKN defined term is not analogous to an approved National I&M Protocol Survey Framework (Protocol Framework). The AKN data structure currently supports the following three FWS Protocol Frameworks: Inventory and Monitoring of Secretive Marsh Birds (Conway 2016), Landbirds (Knutson 2016), and Waterbirds and their Habitats (IWMM) (Loges 2017). Those following these protocol frameworks who wish to enter their data into the AKN must choose and assign their project an AKN defined protocol which accurately reflects the data collection survey procedures. These protocols are displayed with a unique code or set of codes. While protocol choices for IWMM are simple to interpret, the Landbird and Marshbird protocols are more complicated. The goal of this help document is to aid users in understanding what each AKN protocol reflects and determining which AKN protocol matches their survey procedures. A comprehensive list and descriptions of all available protocols can be found on the protocol research page:

<https://data.pointblue.org/science/biologists/php/protocolsearch.php>

2 General Conventions of Protocol Code Names

If you are following the standard FWS landbird protocol framework, the appropriate protocol to choose in the AKN is listed as **"0_to_9m25_50_100M+_KNUTSON"**. The codes can be used to gain an idea of the type of sampling procedure they follow. For example, the above AKN protocol is 9 minutes long, thus the **0_to_9m**. Additionally the distance bins for this protocol are 0-25 m, 25-50 m, 50-100 m, and then anything greater than 100 m, which is referenced by the **25_50_100M+**.

Generally the code will include all of the aspects of the protocol, though this is not always the case. For example, the previously discussed Knutson protocol code does not include **FLY** but flyovers are able to be input into the AKN via this protocol. This is important to keep in mind when choosing an AKN protocol to fit your survey procedures. Referencing the comprehensive protocol list and finding the details on what the AKN accepts per each protocol code is encouraged to ensure the appropriate protocol is chosen.



Avian Knowledge Network (AKN) Help Documentation

3 Common Landbird (PointCount) Code Conventions

3.1 Survey Duration

Survey Duration is generally the first part of the code. The list below lists the most common protocol survey durations.

- **0_to_9m**: 9 min long survey with detections noted during each minute (1 minute bins).
- **3_5m**: 5 min long survey with birds recorded as detected either during minutes 0-3 or 3-5.
- **3_5_10m**: 10 min long survey with birds recorded as detected during minutes 0-3, 3-5, or 5-10.
- **5m**: 5 min long survey. No differentiation of which minute bird was detected.
- **5_10m**: 10 min long survey with birds recorded as detected during minutes 0-5 and 5-10.

3.2 Survey Distance Bins

Distance bins for surveys vary greatly. Generally, distance bins are denoted by the number of meters in each bin separated by an underscore followed by an “**M**”. For example, **25_50_75M** indicates distance bins of <25 m, 25-50 m, and 50-75 m. An “**M+**” indicates there is also a distance bin for anything greater than the final number. If the above example had an “**M+**” instead of an “**M**” there would be one additional distance bin of >75 m.

FLY indicates that flyovers are recorded in the AKN protocol. Generally this includes any birds flying over the survey location, and does not land, between 0-1,000 m from the surveyor.

3.3 Other

If you see the following acronyms they typically represent the following sampling designs:

- **FR**: Fixed Radius
- **FRPC**: Fixed Radius Point Count
- **VRPC**: Variable-radius point count
- **VCP**: Variable Circular Plot

NOTE: There are a series of AKN protocols which have been specifically developed for certain regions or species (ex: **SNI_PC** refers to San Nicolas Island point counts). Confirm data collection methods and types are the same before choosing one of these AKN protocols.

4 Common Secretive Marshbird Code Conventions

Generally, all secretive marshbird protocols available in the AKN follow the I&M of Secretive Marshbird National Protocol framework supported by FWS. Protocol codes in the AKN generally reflect the focal species and order which their callbacks are broadcast. These codes are generally abbreviations of the species’ 4 letter AOU code. Commonly grouped focal species are sometimes listed together while additional species are separated by underscores. Common codes and their general meaning are listed on the following page:



Avian Knowledge Network (AKN) Help Documentation

- **AmB:** AMBI (American bittern)
- **AmC:** AMCO (American coot)
- **BLLeSV:** BLRA (black rail), LEBI (least bittern), SORA (sora), and VIRA (Virginia rail) focal species broadcast in that order.
- **Bl:** BLRA (black rail)
- **Cl:** CLRA (clapper rail)
- **Co:** COGA (common gallinule) *formerly COMO (common moorhen)*
- **KA:** KIRA (king rail) and AMBI (American bittern) focal species broadcast in that order.
- **Ki:** KIRA (king rail)
- **Le:** LEBI (least bittern)
- **LeS:** LEBI (least bittern) and SORA (sora) focal species broadcast in that order.
- **LeSV:** LEBI (least bittern), SORA (sora), and VIRA (Virginia rail) focal species broadcast in that order.
- **Li:** LIMP (limpkin)
- **MBM_Survey_Not_Run:** Appropriate protocol to use for when there are points which were not able to be surveyed with other points in the same transect (i.e. if a point had to be skipped).
- **P#:** Passive # of minutes. If used a code prefix it generally refers to passive # minute(s) at beginning of survey. If used as a code suffix it generally refers to passive # minute(s) at the end of the survey.
- **Pb:** PBGR (pied-billed grebe)
- **Pu:** PUGA (purple gallinule)
- **Ri:** RIRA (Ridgeway's rail)
- **SO:** SORA (sora)
- **SV:** SORA (sora) and VIRA (Virginia rail) focal species broadcast in that order.
- **Vi:** VIRA (Virginia rail)
- **Wi:** WISN (Wilson's snipe)
- **Ye:** YERA (yellow rail)
- **YS:** YERA (yellow rail) and SORA (sora) focal species broadcast in that order.

Example: LeSV_Cl_AmB_Co_Pb protocol code refers to a survey procedure where LEBI (least bittern), SORA (sora), VIRA (Virginia rail), CLRA (clapper rail), AMBI (American bittern), COGA (common gallinule), and PBGR (pied-billed grebe) were each broadcast in that order per the FWS Secretive Marshbird protocol framework SOP 2: Conducting Surveys.

NOTE: This guide is to aid in the initial locating, choosing, and understanding which AKN protocol matches the investigators survey procedures. Specifics of the AKN protocol should always be confirmed on the [protocol research site](#) before being assigned to a project.